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(54) DISPERSION COMPENSATING OPTICAL FIBER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a dispersion compensating optical fiber capable of compensating wavelength dispersion of an NZ-DSF having negative wavelength dispersion in 1.55  $\mu\text{m}$  band and further suitable for substantially single mode wavelength multiplex optical communications in which a nonlinear effect is restrained.

SOLUTION: The fiber is to be substantially a single mode propagation in wavelength 1.55  $\mu\text{m}$  band, the wavelength dispersion is to be +19 ps/nm/km or more, moreover the loss of bending is 20 dB/m or less and furthermore, the effective core cross section is 85  $\mu\text{m}^2$  or more. In order to obtain such characteristics, for example, when the outside diameter of the central core part is expressed by 2a, the outside diameter of the intermediate part encircling the central core part is expressed by 2b, the difference of the specific refractive index of a clad part and the central core part is expressed by  $\Delta d$  and the difference of the specific refractive index of the clad part and the intermediate part is expressed by  $\Delta e$ ,  $\Delta d \leq +0.35\%$ ,  $-0.5\% \leq \Delta e \leq 0\%$ , and moreover  $3.0 \leq b/a \leq 5.0$  are satisfied.

